

Application No. 10/766466

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CLMPTO

1. (Currently Amended) A semiconductor device comprising:
  - a substrate of a first conductivity type;
  - an epitaxial layer of said first conductivity type formed over a major surface of said substrate;
  - a plurality of stripes of a second conductivity type only being formed in a top surface of said epitaxial layer, each of said ~~regions~~ stripes of said second conductivity type extending to a first depth and laterally spaced from another ~~region~~ stripe of said second conductivity type by a distance selected so that said device exhibits the same reverse avalanche energy absorption characteristics as a Fast Recovery Epitaxial Diode having a diffusion of a depth higher than said first depth; and
  - a schottky contact layer in contact with said plurality of spaced ~~regions~~ stripes of said second conductivity type and regions of said first conductivity type disposed between said spaced ~~regions~~ stripes of said second conductivity type.
- 2.-3. (Canceled).
4. (Previously Presented) A semiconductor device according to claim 1, wherein said stripes of said second conductivity type are five microns deep.
5. (Original) A semiconductor device according to claim 1, wherein said schottky contact layer is comprised of aluminum.
6. (Previously Presented) A semiconductor device according to claim 1, wherein said distance between a stripe of said second conductivity type and another stripe of said second conductivity type is eight microns.

7. (Previously Presented) A semiconductor device according to claim 1, wherein said distance between a stripe of said second conductivity type and another stripe of said second conductivity type is twelve microns.

8. (Previously Presented) A semiconductor device according to claim 1, wherein said distance between a stripe of said second conductivity type and another stripe of said second conductivity type is nineteen microns.

9. (Previously Presented) A semiconductor device according to claim 1, wherein said distance between said stripes of said second conductivity type is between eight microns and nineteen microns.

10. (Previously Presented) A semiconductor device according to claim 1, wherein said distance between a stripe of said second conductivity type and another stripe of said second conductivity type is no more than nineteen microns.

11. (Original) A semiconductor device according to claim 1, further comprising a back contact layer disposed over a second major surface of said substrate opposing said first major surface.

Claims 12-22 (CANCELLED)